

**TETON SALES COMPANY  
TIER I APPLICATION RENEWAL**

*T1-050025  
027-00067*

**SUBMITTED TO:  
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**MAY 5, 2005**

**RECEIVED**

**MAY 05 2005**

Department of Environmental Quality  
State Air Program

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## 1.0 INTRODUCTION AND OVERVIEW

### 1.1 INTRODUCTION

Teton Sales Company (Teton Sales) is submitting an application to renew their current Tier I Operating Permit (OP) which expires November 6, 2005. Teton Sales is currently operating under Tier I OP No. 027-00067. Teton Sales coats doors and moulding products at its plant in Caldwell, Idaho. In the facility-wide permit application, Teton Sales requested the modification of their spray coating line to utilize a water base paint to reduce the emissions of VOCs. In general, this Tier I permit application does not request any new limits for Teton Sales' Title V OP with respect to the current Tier I OP.

The current potential to emit (PTE) is shown in Table 1.1-1:

**Table 1.1-1 Potential to Emit**

CO	NO <sub>x</sub>	SO <sub>2</sub>	PM	PM <sub>10</sub>	VOC	Lead
0.44 tpy	0.52 tpy	0.003 tpy	1.55 tpy	1.51 tpy	371.2 tpy	2.6 x 10 <sup>-6</sup> tpy

The plant is currently a major source for VOC and HAPs.

With the submittal of this Tier I permit renewal application, Teton Sales requests that the Idaho Department of Environmental Quality (DEQ) renew the Tier I OP No. 027-00067 for its coating operations.

### 1.2 PROJECT OVERVIEW

Teton Sales is proposing no modifications or new sources in this Tier I application.

The application is divided into the following sections:

Section 2.0 – Facility Classification provides general information about the facility.

Section 3.0 – Process Description, describes the Teton Sales process and combustion sources.

Section 4.0 – Tier I Application Forms, contains DEQ application forms including Section 1.0 of the Tier I Application Forms with a certified signature.

Section 5.0 – Regulatory Applicability Analysis presents the state and federal air quality regulations that apply to the proposed modification and new sources and, equally important, the regulations that do not apply.

Section 6.0 – Emission Calculations provides detailed emission calculations, and explanations of assumptions and conventions used in determining short and long term emission levels.

Section 7.0 – Excess Emissions Documentation discusses any excess emissions experienced by Teton Sales.

Section 8.0 – Ambient Air Impact Analysis describes the modeling parameters and procedures used in demonstrating compliance with the NAAQS.

Section 9.0 – Compliance Certification Plan discusses compliance demonstration by Teton Sales and provides a schedule for obtaining compliance. Compliance certification is included.

Section 10.0 – Insignificant Activities lists any insignificant activities at the Teton Sales facility.

Section 11.0 – Alternative Operating Scenario/Trading Scenarios/Permit Shield discusses any applicable alternative operating scenarios, trading scenarios, and permit shields.

Section 12.0 – Demonstration of Compliance with Toxic Standards, provides an analysis of the potential impact to the ambient air from any toxic air pollutants (TAPs) and hazardous air pollutants (HAPs) emitted from Teton Sales.

Appendix A – Completeness Checklist is a completed checklist provided by the Idaho Department of Environmental Quality (IDEQ) for completeness determination.

Appendix B – MSDS & RCR Documentation, contains the MSDS sheets.

## **2.0 FACILITY CLASSIFICATION**

The Teton Sales facility is not a designated facility, as defined by IDAPA 58.01.01.006.27. Teton Sales is a major facility for VOC because the potential to emit (PTE) is greater than 100 tons a year. It is a major facility for HAPs because the facility-wide HAP emissions are greater than 25 tons per year.

Teton Sales is grandfathered as a Prevention of Significant Deterioration (PSD) major source as the potential to emit for VOCs is greater than 250 tons per year and it began operations before the August 7, 1977 PSD regulations (40 CFR 52.21). Since Teton Sales is grandfathered as PSD major, the next time Teton Sales experiences an emission source that involves a physical change or change in operation, the net emissions increase must be evaluated and compared to the significant emission rates.

However, Teton Sales is in the process of preparing an updated facility-wide application that will likely make it a non-PSD major source. In the facility-wide application Teton Sales will address Best Available Control Technology (BACT) equivalent emission reductions. It is our intent to submit the facility-wide application in a timely manner so that new facility-wide permit conditions can be included in the Tier I renewal. The BACT analysis will not be included in this application but will be submitted with the facility-wide application.

### **2.1 FACILITY DESCRIPTION**

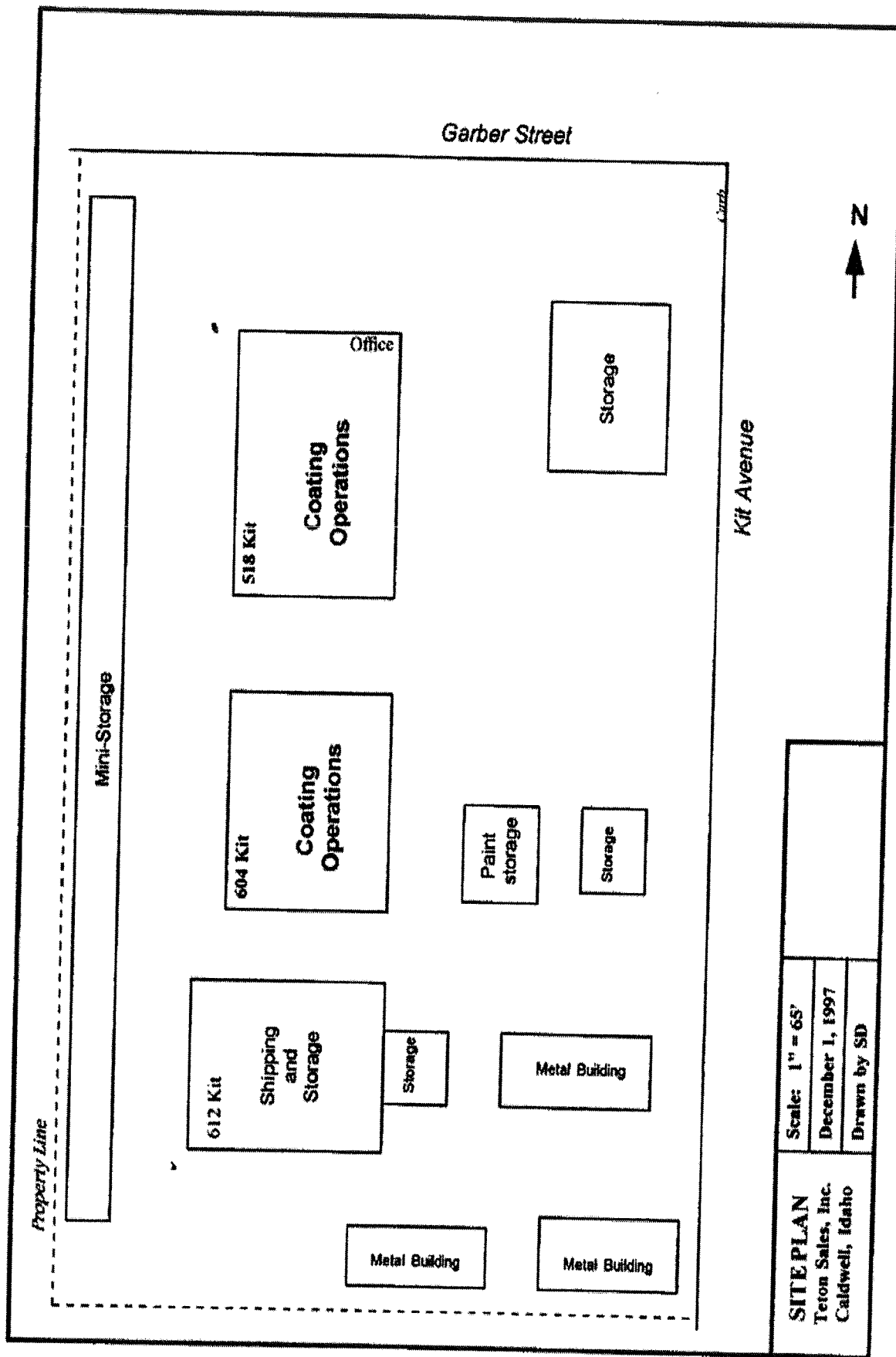
Teton Sales is a wood products coating company. Unpainted doors and moulding are coated with water and solvent-based coatings respectively prior to sale. The process includes spray booths and drying ovens, which are also sources of emissions. A description of the process is given in section 3.0. Also, a process flow diagram is included in section 3.0.

### **2.2 FACILITY LOCATION**

The facility is a wood products coating plant located at 424 Kit Avenue in Caldwell, Idaho. The coating operations are located at Universal Transverse Mercator (UTM) Zone 11 coordinates of 523<sup>878</sup> km east, 4834<sup>928</sup> km north. The terrain surrounding the plant is considered industrial urban and fairly flat. A facility plot plan is shown in Figure 2.2-1. A location map is shown in Figure 2.2-2.

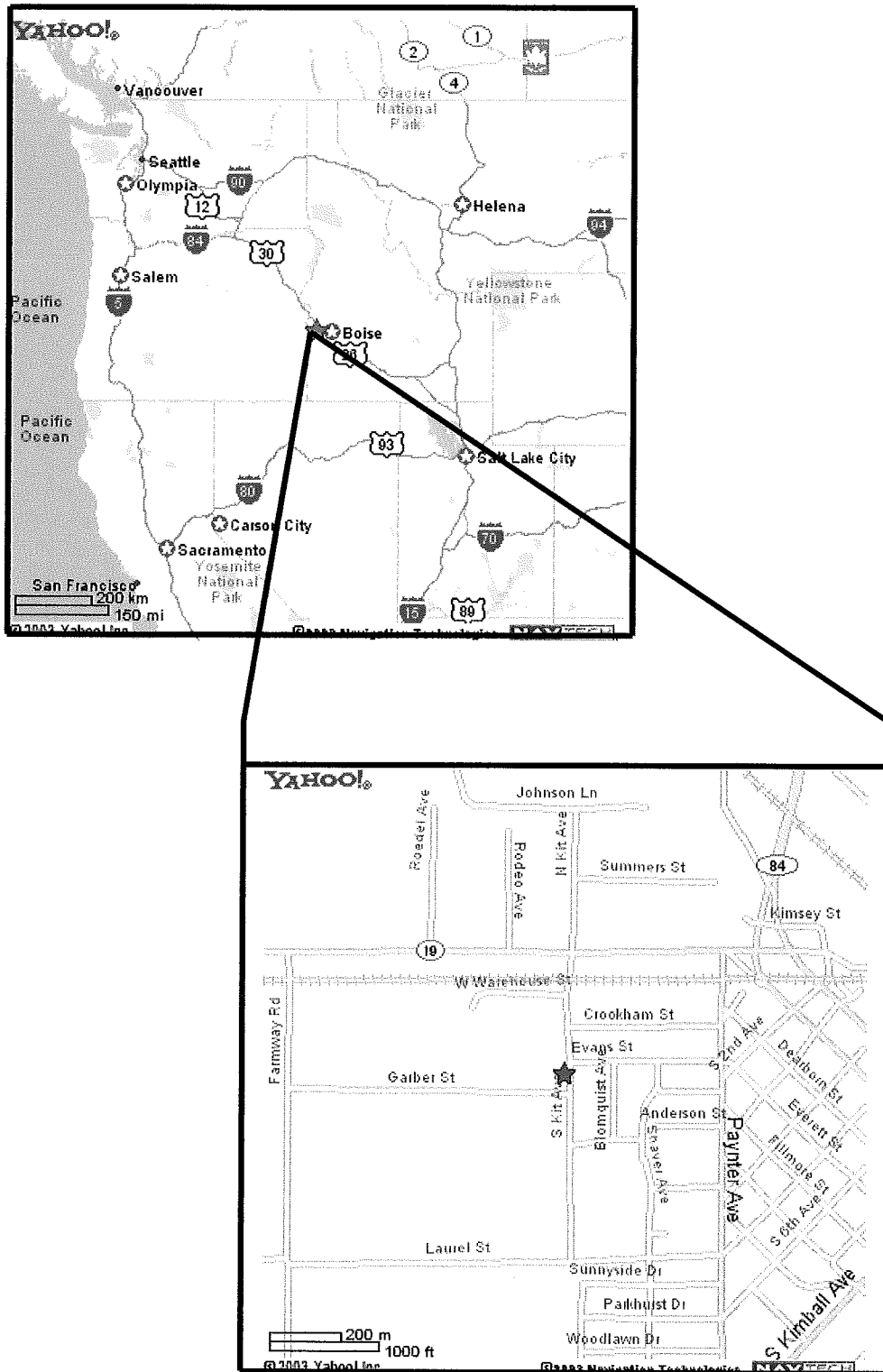
Figure 2.2-1 Plot Plan and Ambient Air Boundary

UTM Zone 11 Coordinates: 523.878 km East, 4834.928 km North





**Figure 2.2-2 Teton Sales Location Map**



### 3.0 PROCESS DESCRIPTION

#### 3.1 COATING PROCESS

Unpainted doors and moulding are brought to the facility where they are coated with water and solvent-based coatings respectively prior to sale. The coating operations are located in 518 Kit Avenue and 604 Kit Avenue.

##### *518 Kit Avenue*

The spray booth and moulding coating equipment operate in this building. The building also houses a drying oven. Spray booth and moulding coating equipment consists of:

- spray booth
- roll coater #2, and
- fan coater #5

Doors are hand attached to hangers that are mechanically conveyed along a suspended rail past the spray booth where workers spray coat the doors with hand-held, air-assisted airless spray guns. After coating, the doors are routed through a heated drying oven, which is simply a paneled, ventilated enclosure with natural gas-fired heaters (560,000 Btu per hour total heat input). The oven ventilation system consists of an exhaust blower operating at 5,000 cfm. After passing through the oven each door is removed from its hanger. There are also three 100,000 Btu/hr natural gas-fired heaters used as space heaters for heating the building 518 Kit Avenue.

The spray booth is simply a wide, ventilated booth that draws air past the spraying activity through a 99% efficient polyester filter, discharging air outside the building at a rate of 25,000 cubic feet per minute (cfm). Discharged air may contain volatile organic compounds (VOC), volatile hazardous air pollutants (HAPs), volatile toxic air pollutants (TAPs) and particulate matter (PM and PM-10). The filtration system controls particulate matter emissions, but VOC emissions are uncontrolled. The spray booth utilizes water-based paint to tremendously reduce the VOC emitted to the ambient air.

The moulding line consists of fan coater #5 and roll coater #2 in parallel and therefore cannot be operated simultaneously. The ventilation system for fan coater #5 consists of a ventilation hood ducted through a wall vent at 5,000 cfm. Emissions from roll coater #2 are emitted into the building and are drawn out of the building by a nearby wall vent at 5,000 cfm. The fan coater is not a spray coater and therefore no PM emissions are generated from its operation. The coating head discharges a small, fan-shaped "curtain" of coating through which each piece of moulding is rapidly conveyed. The roll coater is a direct contact application similar to a hand-held roller brush and therefore has a transfer efficiency of nearly 100 percent. The roll coater is actually a printer equipped with three rollers that have been converted to a roll coater used to apply a high solids burnishing sealer to the wood moulding. Moulding is then conveyed from either the fan coater or the roll coater to the oven for drying.

## **604 Kit Avenue**

Moulding coating equipment operates in this building. The building also houses a drying oven and a paint mix area. Moulding coating equipment consists of:

- roll coater #1
- fan coater #1, fan coater #2, fan coater #3, fan coater #4,
- printer #1 and printer #2, and
- two buffers

Roll coater #1 is similar to roll coater #2 in building 518 in that it rolls a high solids sealer onto the moulding before heading into the oven for drying. There are no PM emissions from roll coater #1 and emissions are drawn out of the building by a nearby 5,000 cfm wall vent. Fan coaters #1 and #4 are in parallel along with fan coaters #2 and #3, and therefore are unable to operate simultaneously. Each of the fan coaters discharge a fan-shaped curtain of coating in which the pieces of moulding are conveyed. There are no PM emissions from any of the fan coaters and VOC, HAP and TAP emissions are captured by a ventilation hood and vented through the wall or the roof. The two printers can be shuffled on and off line depending on the type of moulding being patterned, if any. The printers imprint a woodgrain pattern such as oak or pine onto the moulding. Teton Sales is limiting the on-line time of Printer #1 to 50%, while the on-line time of Printer #2 is assumed to be 100%. There are no PM emissions from either of the two printers and VOC, HAP and TAP emissions are captured by a ventilation hood and vented through the wall. Each of the two buffers are insignificant activities (IDAPA 58.01.01.317.01.a.i.(54)).

After proper coating and printing, the moulding is routed through a heated drying oven, which is simply a paneled, ventilated enclosure with four natural gas-fired heaters (560,000 Btu per hour total heat input). The oven ventilation system consists of an exhaust blower operating at 5,000 cfm.

### **3.2 EQUIPMENT LIST**

The equipment list is shown in table 3.2-1 below:

**Table 3.2-1 Major Process Equipment**

<b>EQUIPMENT</b>	<b>CONSTRUCTION DATE</b>
Spray Booth	1995
Roll Coater # 1	2000
Roll Coater # 2	1999
Fan Coater # 1	1976
Fan Coater # 2	1976
Fan Coater # 3	1995
Fan Coater # 4	1993
Fan Coater # 5	1990
Printer # 1	1980
Printer # 2	1990

### **3.3 PROCESS FLOW DIAGRAM**

The process flow diagram for Teton Sales for 518 Kit Avenue is shown in Figure 3.3-1. The process flow diagram for 604 Kit Avenue is shown in Figure 3.3-2.

**Figure 3.3-1 Spray Booth and Moulding Line Flow Chart – 518 Kit Avenue**

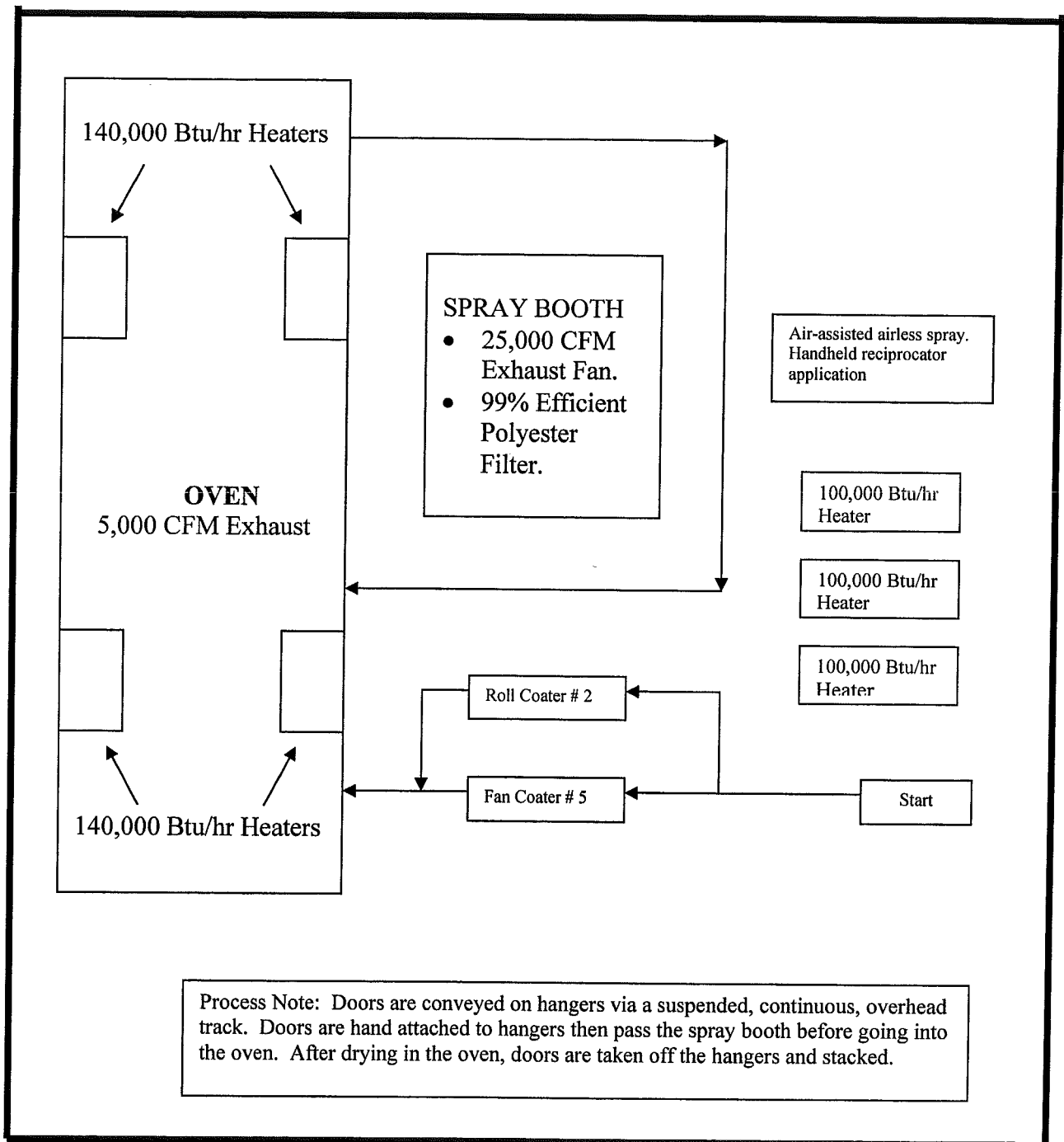


Figure 3.3-2 Moulding Line Flow Chart – 604 Kit Avenue

